"Women's Health" is also available at www.squarepharma.com.bd

WOMEN'S HEALTH

Volume : 11, No. : 1 January - June 2018

Editorial Note:

Dear Doctor,

It's our immense pleasure to inform you that we have published our newsletter, "Women's Health". In this issue we are focusing on **"Gynaecological Causes of Abdominal Pain"**.

Your comments and suggestions will encourage us for upcoming issues.

Gynaecological Causes of Abdominal Pain

SQUARE
PHARMACEUTICALS LTD.
BANGLADESH

SQUARE

Gynaecological Causes of Abdominal Pain

Gynaecological causes of abdominal pain may arise from conditions associated with both pregnancy and the non-pregnant state. Patients with such problems may present as emergencies or to routine outpatient clinics. This contribution will concentrate on those conditions most likely to present to a surgical trainee and give guidance on appropriate management, particularly in relation to investigations and referral for gynaecological assistance.

Gynaecological Emergencies Associated with Pregnancy

One would expect most pregnant women with likely gynaecological causes of abdominal pain to be directed appropriately. However, it is not uncommon for patients to be unaware that they are pregnant when they are admitted as emergencies with abdominal pain. The most important condition that surgical trainees may be faced with is ectopic pregnancy. Threatened miscarriage, while causing abdominal pain, will not normally present to surgeons because, in most cases, vaginal bleeding precedes the pain. In addition, patients with miscarriage usually present after 8 weeks of pregnancy, having already confirmed that they are pregnant. While most of these women are haemodynamically stable, occasionally a patient may be in shock and bleeding very heavily. When this occurs, a vaginal examination is important as the clinical situation may have resulted from a vagal response to products of conception being caught in the cervical os and their removal may rapidly improve the woman's condition. Later in pregnancy, severe abdominal pain may result from degeneration of fibroids caused by compromised blood supply as they increase in size in response to the hormonal changes of pregnancy. The woman is usually aware that she has fibroids and the pain is localized over the site of the fibroid, the presence of which can be confirmed by ultrasound.

Ectopic Pregnancy

Ectopic pregnancy can present with a clinical spectrum ranging from a total lack of symptoms and signs to a shocked and moribund condition resulting from major intraperitoneal haemorrhage. The most common symptoms are unilateral lower abdominal pain, a short period of amenorrhoea (often less than 6 weeks) and vaginal bleeding which is usually light and may be confused with an unusual period. However, no history of amenorrhoea may be elicited and ectopic pregnancy should be considered in any woman of reproductive age presenting with lower abdominal pain. Risk factors for ectopic pregnancy include any situation that could have caused tubal distortion or intrinsic damage, such as pelvic infection and previous pelvic surgery. Women who have conceived with an intrauterine contraceptive device in situ have a relatively increased risk of ectopic pregnancy. Most such pregnancies occur in the Fallopian tube, but other less common sites include the ovary, cervix and peritoneal cavity. There may be general physical signs of haemodynamic compromise, with lower abdominal tenderness and guarding, possibly localized to one side. Vaginal or rectal examination may reveal exquisite tenderness, particularly if there has been some bleeding from the pregnancy. The patient may have a slight pyrexia if bleeding has occurred.

Pregnancy tests are highly sensitive and will be positive before a period has been missed. A negative pregnancy test will therefore exclude an ongoing pregnancy. However, because pregnancy tests are so sensitive, and because ectopic pregnancies often present before 6 weeks of gestation, the dilemma for the attending clinician may be the location of the pregnancy, as ultrasound will often not confirm an intrauterine pregnancy before 6 weeks. In addition, a decidual reaction of the endometrium to the ectopic gestation may give the ultrasonic appearance of early intrauterine pregnancy. Vaginal ultrasound is more accurate in assessing the pelvis and may suggest or indeed confirm, the presence of an ectopic pregnancy. However, a negative scan does not exclude this diagnosis. A low haemoglobin level is often evident when there has been intraperitoneal leakage of blood over a period of days or even weeks.

Management should be heavily influenced by clinical suspicion in the presence of a positive pregnancy test. If the patient is stable and the diagnosis is uncertain, serial quantitative measurements of human chorionic gonadotrophin (HCG) may be undertaken. The level should more than double over 48 hours when there is a viable intrauterine pregnancy, while it will increase, but not double, over that time with an ectopic gestation. Unfortunately, HCG measurement does not always obey the rules, and clinical suspicion should lead to further investigation.

In a shocked patient, urgent laparotomy should be undertaken. Otherwise, laparoscopy is the preferred method of making the diagnosis. A surgical trainee finding an ectopic pregnancy either at laparotomy or laparoscopy should seek gynaecological assistance.

The management of a confirmed ectopic pregnancy is its removal, either laparoscopically or by laparotomy. Occasionally, methotrexate may be used to cause the pregnancy to abort and resorb. The decision to deal with the problem laparoscopically or by laparotomy will depend on the surgeon's experience, whether or not there has been significant bleeding with the formation of adhesions making laparoscopic removal more difficult and whether the decision is to remove (salpingectomy) or try to conserve (salpingotomy) the tube. Subsequent fertility after salpingectomy or salpingotomy is similar if the tube on the other side is normal, while the risk of a further ectopic pregnancy is increased after a salpingotomy and there is also a higher risk of persisting trophoblast. Salpingotomy is therefore only recommended when there is no contralateral tube.

Gynaecological Emergencies in the Non-Pregnant Patient

The two conditions that present as emergencies with abdominal pain are complications relating to ovarian cysts and acute pelvic inflammatory disease.

Ovarian Cysts

Many functional cysts, particularly if less than 5 cm in diameter, will disappear spontaneously. Management will depend on the clinical presentation and, in the absence of signs of peritonitis or a high suspicion of torsion, an expectant approach with analgesia will often be appropriate. In other circumstances, surgery is necessary and is usually carried out with an initial laparoscopy unless the patient is shocked or the cyst is extremely large.

If a cyst is encountered during a laparotomy, or even laparoscopy, it is always prudent to ask for gynaecological assistance with regard to the appropriate management. This is particularly important if there is a suspicion of malignancy.

Complications: most ovarian cysts that undergo complications are functional cysts, particularly in younger women. It must, however, be remembered that ovarian cysts may be malignant, particularly in older women. Complications of cysts include haemorrhage, rupture, torsion and infection. Infected cysts, causing abscess formation, are usually a feature of acute pelvic inflammatory disease.

Complicated ovarian cysts, particularly on the right side, may result in the patient being admitted with suspected appendicitis.

Haemorrhage- cysts that haemorrhage may cause symptoms and signs similar to an ectopic pregnancy, with severe lower abdominal pain and tenderness. The patient may be anaemic. Interestingly, if a pelvic mass can be felt on vaginal examination, it is more likely to be an ovarian cyst than an ectopic pregnancy. A pregnancy test will differentiate between the two diagnoses, and transvaginal ultrasound will confirm the presence of a cyst.

Rupture- a ruptured cyst will result in a similar presentation, though the patient is less likely to be anaemic and the onset of pain will probably be more acute. Transvaginal ultrasound will often reveal a significant amount of free fluid in the pelvis.

Torsion- cysts that undergo torsion may cause episodes of recurrent pain that may come and go over quite a long period of time, as the pedicle twists and untwists. Finally, the pain may become continuous as the ovarian blood supply is cut off and the ovary may then become gangrenous.

Acute Pelvic Inflammatory Disease

Pelvic inflammatory disease is the most common gynaecological emergency not associated with pregnancy. It is most often caused by Chlamydia, but may also result from infection with the Gonococcus. Severe cases are associated with systemic upset, including fever, rigors and tachycardia. Severe bilateral pain may radiate to the back. There may be a history of similar previous episodes. Vaginal discharge is not always reported, but there may be irregular vaginal bleeding. Differential diagnoses include ectopic pregnancy and acute appendicitis. Apart from lower abdominal tenderness, vaginal examination will usually elicit exquisite discomfort. A pregnancy test will exclude ectopic pregnancy and ultrasound may reveal a tubo-ovarian abscess. Other investigations should include vaginal and cervical swabs, with an additional cervical swab for culture of Chlamydia.

Even in the presence of a pelvic abscess, the usual management should be conservative with appropriate antibiotics such as doxycycline and metronidazole, intravenous fluids and analgesia. Clearly, if there are signs of generalized peritonitis suggestive of a burst abscess, laparotomy with drainage of the abscess is necessary.

Most patients respond rapidly to conservative management. In the presence of an abscess, the patient's condition and the size of the abscess should be monitored with ultrasound. If the woman remains unwell and the abscess is not becoming smaller after 48 hours of supportive treatment, laparotomy should be performed. It is usually only possible to decompress and drain an abscess but, in certain circumstances, it may be possible to remove a tube and an ovary. Percutaneous drainage of the abscess is not commonly performed.

As with ovarian cysts detected by a surgeon during a laparotomy, gynaecological assistance should be sought in cases of pelvic abscess not related to the gastrointestinal tract.

Benign Gynaecological Conditions

Gynaecological conditions presenting to outpatient clinics with abdominal pain may arise from the uterus, tubes or ovaries.

Ovarian Cysts: cysts with complications may cause pain that is not sufficiently severe to justify emergency admission and their management.

Pelvic Inflammatory Disease: an attack of acute pelvic inflammatory disease can be followed by the development of chronic pelvic pain which can be very debilitating. The pain may be aggravated by intercourse and treatment is difficult. Pelvic examination will often reveal a fixed and tender uterus. The only effective therapy for chronic pelvic inflammatory disease is surgical removal of the uterus and ovaries. This is a major procedure, particularly in young women, for whom it has implications for fertility as well as a premature menopause.

Fibroids: women with fibroids may present with lower abdominal pain, though they are more likely to be referred to gynaecological than to surgical clinics, as the pain is usually associated with heavy periods. Large fibroids may, however, cause discomfort due to pressure on adjacent structures in the absence of menorrhagia. Diagnosis is normally made on pelvic examination, though ultrasound may be needed to differentiate between a fibroid and an ovarian cyst.

Management of fibroids may be expectant or may involve symptomatic relief of pain and heavy bleeding. When medical treatment is unsuccessful, myomectomy may be indicated if ongoing fertility is an issue. Otherwise, hysterectomy is widely employed. In recent years, embolization of the uterine vessels has been reported to cause fibroids to shrink resulting in alleviation of symptoms, though long-term results of this treatment are not yet available.

Endometriosis: this is a condition in which endometrial deposits are found outside the uterine cavity, possibly becoming transported

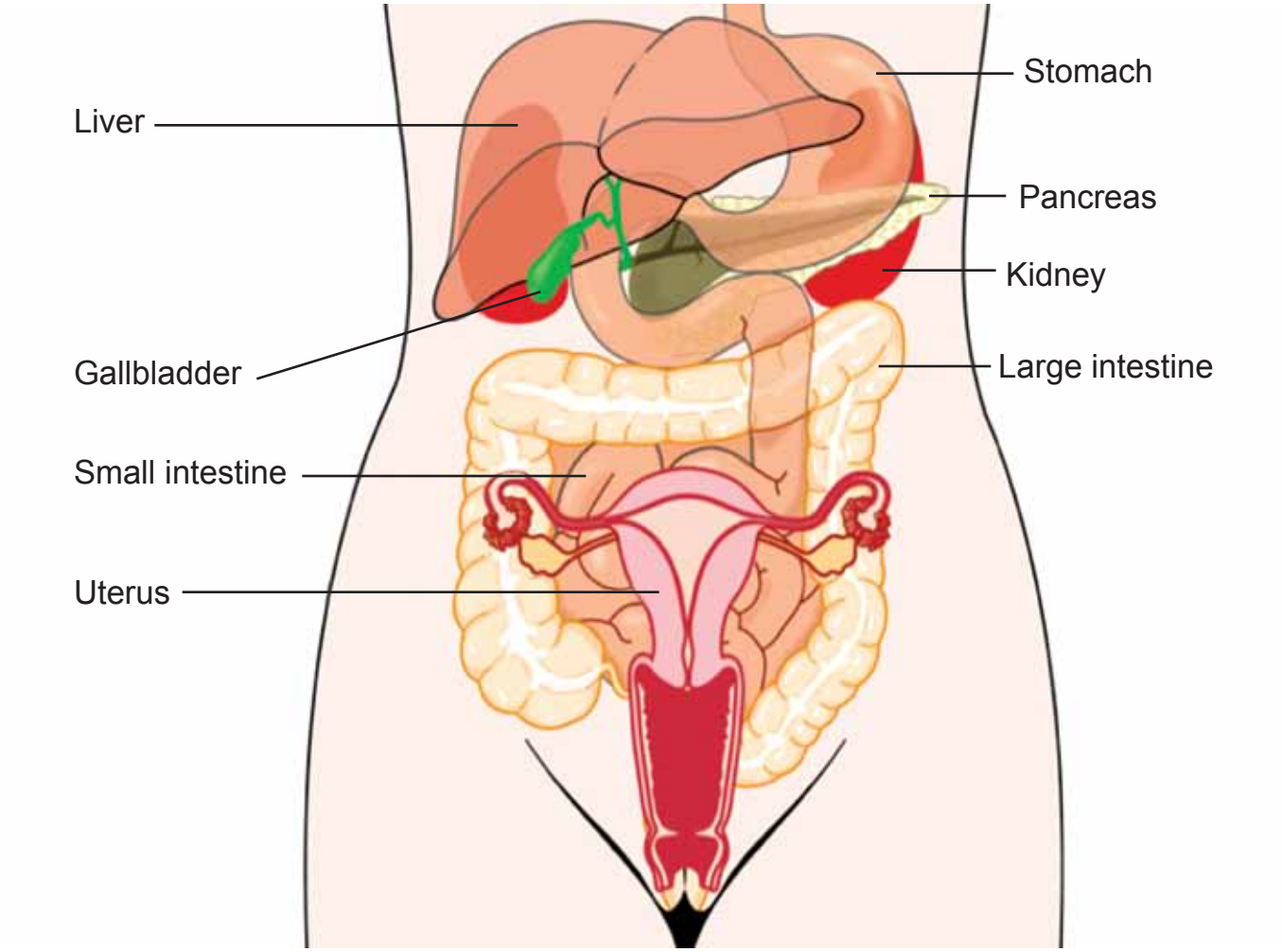
by retrograde menstruation. It is a fairly common condition, although it is asymptomatic in many women. The endometriotic deposits are stimulated by oestrogen produced by the ovaries and can give rise to the following symptoms and signs:

- painful and heavy periods, particularly in more advanced disease when there may be extensive pelvic adhesions
- chronic pelvic pain, particularly in more advanced disease when there may be extensive pelvic adhesions
- dyspareunia, particularly on deep penetration, as there are frequently deposits on the uterosacral ligaments and in the pouch of Douglas
- infertility, which may result from tubal distortion
- pelvic mass
- gastrointestinal symptoms, particularly rectal bleeding at the time of a period, if there are rectal deposits
- a fixed, tender, retroverted uterus, with enlargement of the ovaries.

Vaginal ultrasound scanning may be suggestive of endometriosis, but definitive diagnosis usually requires laparoscopy or even laparotomy.

Management is influenced by the presentation and may range from no treatment through to pelvic clearance with removal of the uterus and ovaries. Medical therapy relies on the induction of a pseudomenopause with hormonal treatments, such as the oral contraceptive pill, progestogens, danazol or luteinizinghormone-releasing hormone analogues. Pregnancy is often effective in alleviating symptoms (though it may not always be an acceptable treatment!). Conservative surgery may include diathermy to deposits, adhesiolysis and removal of endometriomas and may be performed laparoscopically or as an open procedure.

Definitive surgery with pelvic clearance may be indicated in advanced disease when fertility is not an issue. Following pelvic clearance, hormone replacement therapy may be given, but unopposed oestrogen should not be prescribed because of the risk of inducing malignant change in ectopic endometriotic deposits over a long period of time.



 # Malignant Gynaecological Conditions #

Cervical cancer seldom presents with abdominal pain. In advanced disease, pain may be caused by metastatic disease, but such cases are unlikely to present to surgical specialists and trainees. Similarly, endometrial cancer rarely causes abdominal pain.

Ovarian Cancer

There are numerous types of malignant ovarian tumour, though most are epithelial in origin and occur in perimenopausal and older women. Secondary tumours are relatively common, particularly originating in the breast and gastrointestinal tract. Most women present with advanced disease and the prognosis is generally poor. However, most epithelial tumours are chemosensitive and, with the advent of new therapies such as the taxane group of drugs, survival in advanced disease has been improved considerably. Approximately 80% of epithelial tumours express the tumour marker CA 125, and this may be helpful in identifying the likely site of origin in women presenting with ascites containing adenocarcinoma cells. In the absence of a pelvic mass, such patients may have a peritoneal primary that also expresses this marker and behaves in a similar way to an ovarian primary tumour.

While pain may be the presenting symptom, it is often vague and may be associated with gastrointestinal symptoms such as anorexia, dyspepsia and altered bowel habit. A large number of referrals for ovarian cancer come from colleagues in gastrointestinal medicine and colorectal surgery, after extensive investigation of the gastrointestinal tract has been undertaken. More widespread use of pelvic ultrasound would achieve an earlier diagnosis in such patients. It is not only less expensive than computed tomography (CT) or magnetic resonance imaging (MRI) scanning, but often more readily available.

The mainstay of treatment in ovarian cancer is debulking surgery with removal of the uterus, ovaries and omentum, which is the most common site of extrapelvic spread, together with any other macroscopic tumour that can be resected. This may involve bowel resection and all patients undergoing laparotomy for suspected ovarian cancer should undergo preoperative bowel preparation. Any surgeon encountering ovarian cancer during a laparotomy should seek gynaecological assistance. There is more value in the surgical removal of tumour in advanced ovarian disease compared with gastrointestinal tumours, because of the improved response to chemotherapy following optimal debulking surgery. In addition, complete surgical staging of the disease is important from a prognostic point of view.

Chemotherapy, usually with carboplatin and taxol, is recommended in all cases of ovarian cancer except those confined to the ovaries. Second-look surgery following chemotherapy may be worthwhile, although its precise role remains to be defined.

Uterine Causes (Uterus/womb)

- **Adenomyosis**

  This is a common cause of uterine pain. This is where lining cells from the uterus become embedded within the muscle causing enlargement and profound tenderness. Over time, the uterus becomes increasingly "boggy", sensitive and enlarged. Pressure on this can cause excruciating pain. Pain is most severe during period times and during intercourse.

- **Fibroids**

  Fibroids are usually painless, however, if they enlarge rapidly leading to inadequate blood supply, then they can become painful and infected. This can be extremely painful and can last for sometime and result in an acute hospital admission. Occasionally it will resolve on its own and settle down.

- **Pregnancy**

  - Uterine pregnancy – early miscarriage. As the pregnancy progresses the uterus cramps and the pregnancy is usually expelled.
  - Non-uterine pregnancy (ectopic pregnancy).This is where the pregnancy lies in the tube or peritoneal cavity and causes swelling, bleeding and pain in that area. This may settle on its own as the pregnancy dies away, but usually will require a laparoscopy and treatment under general anaesthetic.

Ovarian Causes

- **Ovarian Cysts**

  Enlargement of the ovaries due to cysts will enlarge the capsule of the ovary resulting in stretching and severe pain. Occasionally if the cyst ruptures and the contents of the fluid spill into the peritoneum this will result in acute pain, similar to mild appendicitis. This is usually self-limiting but can be extreme enough to warrant hospital admission. Severe polycystic ovaries with sudden enlargement can be particularly painful.

- **Cyst Torsion**

  This means that an enlarged cyst within the ovary twists on itself, resulting in the cutting off of blood supply. This is excruciatingly painful and will usually require surgical treatment in hospital. Occasionally it settles if it is mobile and untwists temporarily but nearly always it twists back on itself and the pain recurs.

- **Bleeding into Ovarian Cysts**

  This can cause considerable pain and should be investigated and treated much in the same way as cyst torsion and endometriosis.

- **Endometriosis**

  This is a condition where lining cells from the uterus are deposited on the ovary, surface of the uterus or peritoneum tubes and other organs within the pelvis.

Each month these cells behave as if they are still within the lining of the uterus, build up and shed as if they were in a normal menstrual pattern. The blood of course is unable to escape and causes irritation on the areas where it is attached. This becomes progressively worse and classically tends to worsen during the menstrual cycle when blood loss and irritation is at its peak.With time, inflammation increases and without treatment, this can cause scarring and adhesions within the pelvis, blocking the fallopian tubes and causing infertility. Endometriomas are collections within the body of the ovary, which are the result of deposits of these cells which bleed monthly and shed but are unable to escape and therefore remain within the ovary itself.

Bowel Causes

The small bowel lies in the centre of the abdomen and the large bowel loops around the outside ascending on the right, crossing over the abdomen and descending on the left side.

Bowel activity can be affected by the menstrual cycle with delayed activity coming up to the period with bloating, stretching of the bowel wall and pain. The bowel lies very close to the female pelvic organs and therefore this pain can often be confused with a uterine or ovarian cause of pain.

Often this pattern of swelling and discomfort can be labelled as “irritable bowel” but in reality it is simply exaggeration of the normal pattern of bowel activity. Alterations in diet and medication can help to improve forward movement of the bowel.

- **Inflammatory Bowel Disease**

  Colitis and Crohn’s disease are the most well known forms of inflammatory bowel disease. These can be excruciatingly painful and either present constantly or intermittently. The symptoms may be mild or severe and are often associated with change in bowel habit, passage of mucus, blood and weight loss in a more extreme form. Pain is usually localised above the pelvis either in the central abdomen if it is related to the small bowel and in either the right or left side of the abdomen if it is associated with large bowel.

- **Fallopian Tubes**

  Infection of these tubes is called salpingitis. This usually occurs during sexual intercourse, where infection can cause inflammation of the fallopian tubes with swelling, abscesses and ultimately damage to the fallopian tube. If severe, there will be an accompanying high temperature and the patient will feel very unwell. If it is chronic and less severe there is often no temperature but the pain is more or less constant and worsened by intercourse or any form of pressure on the area. This is more serious in the long term, because if untreated due to not being diagnosed properly, it can result in blocked tubes and infertility, where as, an acute infection if treated quickly is less likely to do this.

Cervical Causes

- **Inflammation of the Cervix**

  The cervix is very densely packed with nerve endings and when the area becomes inflamed or infected the nerves become hypersensitive. This results in relayed pain signals into the pelvic organs and can be extremely painful. It will often be highlighted at intercourse or if the cervix is touched such as during an examination by your doctor or cervical smear.

Bladder, Ureter and Kidney Causes

- **Bladder Infections**

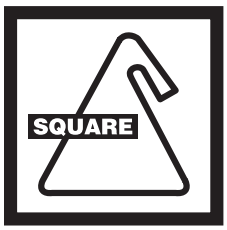
  Inflammation of the urine collecting system including the kidneys and ureter are very common and can cause severe symptoms. They may result in a high temperature, frequent trips to pass urine, pain on passing urine both in the urethra and up into the left loins.

Peritoneal Causes

The peritoneum is the lining of the pelvis and is very sensitive to inflammation such as with pelvic infection, ovarian cysts, bowel disease and blood within the pelvis. Infections such as appendicitis or ruptured cysts can result in severe pain where hospitalisation will be required.

The abdomen is rigid and the bowels may also be affected. If left untreated this may result in peritonitis or a wide spread infection of the peritoneal lining, which can be life threatening. In a less severe form, however, it may simply cause pain and settle down on its own or depending on the cause it may be easily treatable with low-grade antibiotics as an outpatient.

Reference : https://doi.org/10.1016/j.nosyr.2018.03.009



Menoral®

Norethisterone 5 mg Tablet

For better menstrual health

Dose: 1 tablet 3 times a day for 3-4 cycles from day 5 to day 24 of cycle

Since 1958

SQUARE
PHARMACEUTICALS LTD.
BANGLADESH

www.squarepharma.com.bd

SQUARE

Utal™ Tablet

Ulipristal Acetate INN 5 mg

The only medication to treat Uterine Fibroids

without surgery

Once daily for 3 months

Ref.: Product Monograph (Esmya)

Since 1958

SQUARE PHARMACEUTICALS LTD. BANGLADESH

www.squarepharma.com.bd

SQUARE